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MSI Update
PLMN ID Topics

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Discussion Topics

1. MSI position on PLMN ID and associated policy proposal

2. Achieving commercial roaming and inter-region connectivity among waiver recipients under a single PLMN ID

3. Dependencies on an initial administrative authority

4. Impacts of changing PLMN ID in a live system

1. MSI Position on PLMN ID and Policies

MSI recommends adopting a single PLMN ID policy

- Based on leadership and progress by the State of Texas and PS community support

Single PLMN ID requires initial administrative authority to be instantiated quickly

- Interim authoritative entities with phased responsibilities are viable and recommended
- Administrative authorities should be responsible for managing associated sub-IDs, inter-regional connectivity, and elements of carrier roaming

PLMN ID policy should also include a process enabling public safety entities to obtain permanent independent PLMN IDs if needed

- This is required if an authoritative entity does not come into timely existence or is otherwise insufficient to meet specific critical public safety needs
- Includes expeditious (e.g.; within 30 days) action upon receipt of requests
- Entities having independent PLMN IDs may co-exist with the 'federated entity' having a single PLMN ID via standard roaming interfaces
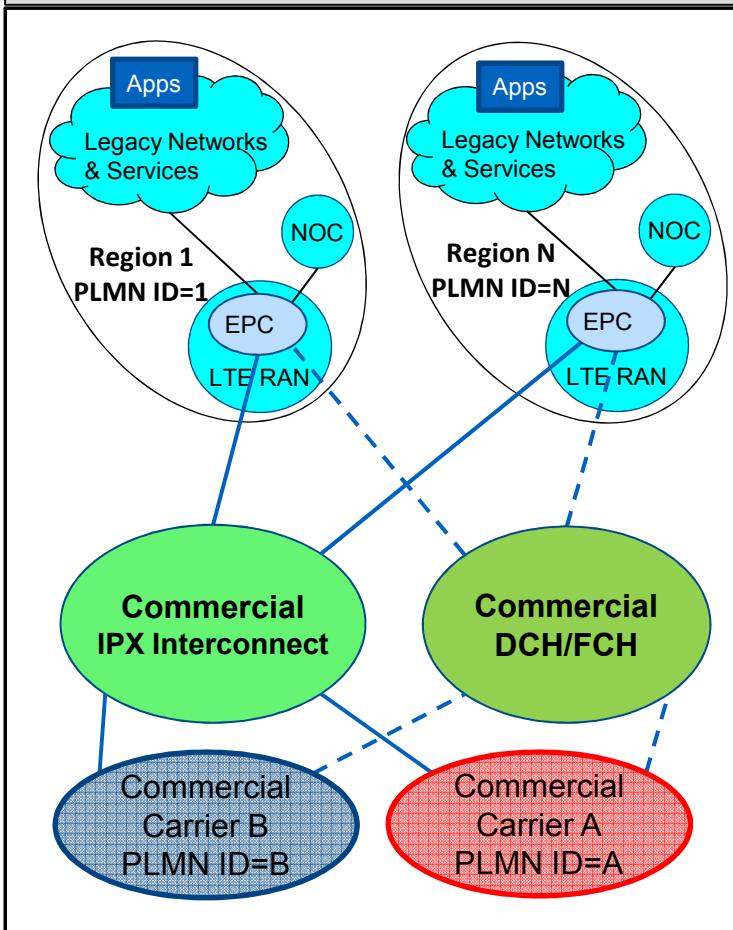
This PLMN ID policy approach supports an interoperable network of Waiver build-outs

- Carrier roaming architecture and roaming service providers can be leveraged for connecting Waiver networks as well as the longer-term nationwide network
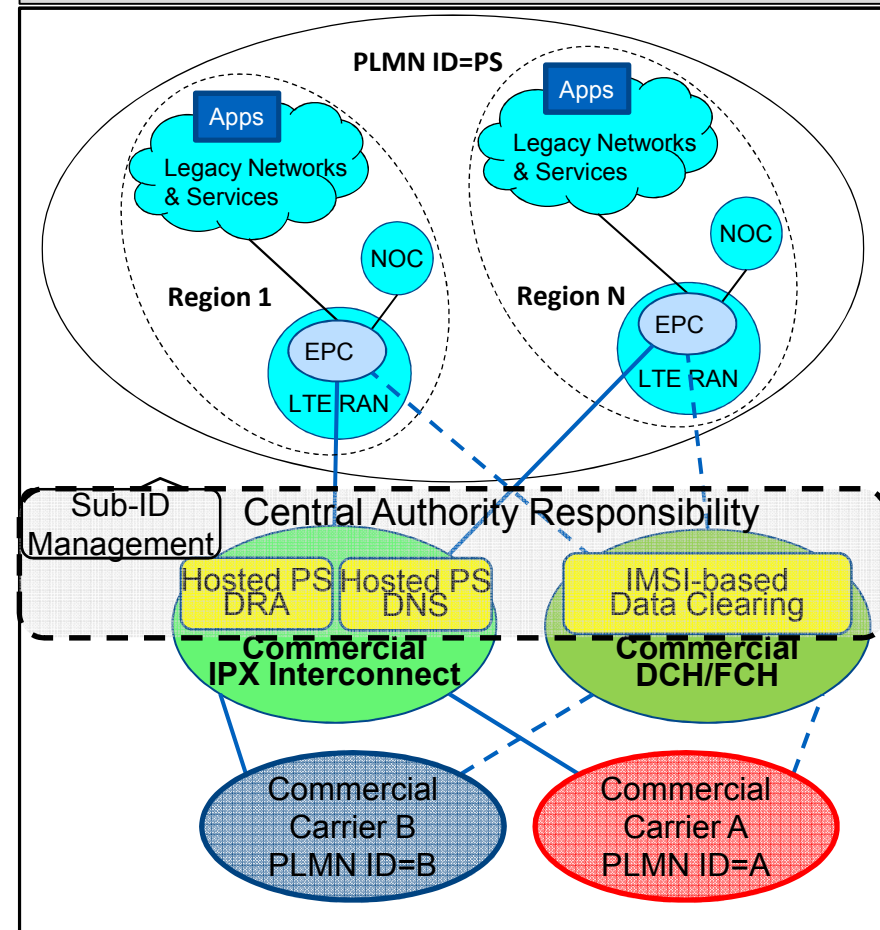
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2. Achieving commercial roaming and inter-region connectivity


Multiple Public Safety PLMN IDs

Region 1
PLMN ID=1

Region N
PLMN ID=N

Apps
Legacy Networks & Services
NOC
EPC
LTE RAN

Commercial IPX Interconnect

Commercial DCH/FCH

Commercial Carrier B
PLMN ID=B

Commercial Carrier A
PLMN ID=A

Single Public Safety PLMN ID - Lightweight

PLMN ID=PS

Region 1

Region N

Apps
Legacy Networks & Services
NOC
EPC
LTE RAN

Sub-ID Management

Central Authority Responsibility

Hosted PS DRA

Hosted PS DNS

IMSI-based Data Clearing

Commercial IPX Interconnect

Commercial DCH/FCH

Commercial Carrier B
PLMN ID=B

Commercial Carrier A
PLMN ID=A

Equivalent interoperable services are available in ether scenario
Permanent co-existence of both scenarios is possible

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2. Waiver Build-out Example within Single PLMN ID
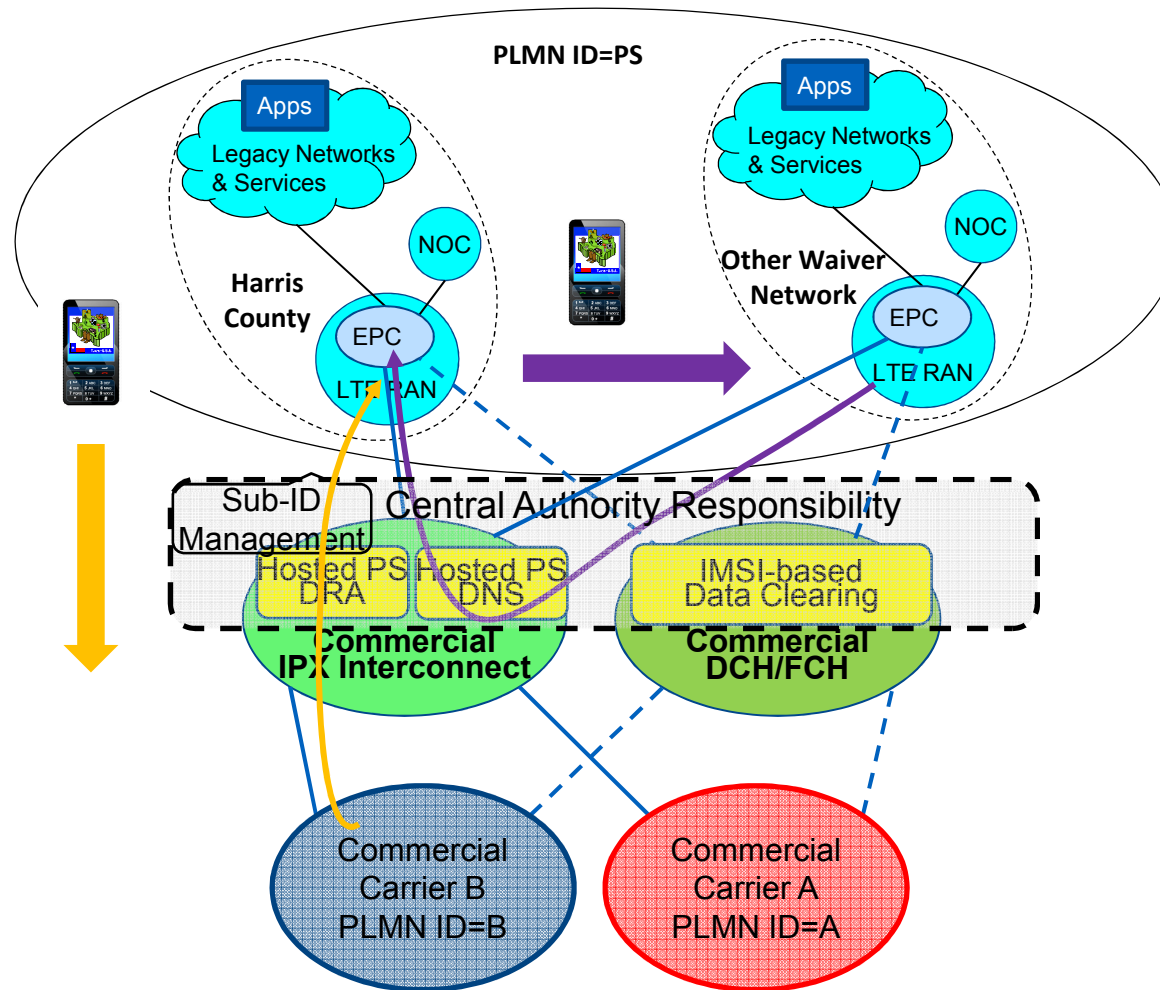
(ANIMATED BUILD)

3. Initial administrative authority dependencies

Single PLMN ID approach requires an initial interim administrative authority

- Would operate under authority of the Commission
- Would maintain neutral, fair, and responsive policies
- Would address issues associated with potential liability of changing sub-ID after initial allocations

Initial technical & operational capability to allocate sub-IDs

- Required to be operational prior to first Waiver configuration for live-network service availability
- Would facilitate Waiver build-outs while avoiding future sub-ID changes

Phased-in technical & operational capability to facilitate carrier roaming

- IMSI-based data clearing, and financial settlements

Phased-in technical & operational capability to facilitate inter-regional connectivity

- Inter-regional transport facilities supporting S5, S6a, and S10 interfaces
- Diameter Routing Agent (DRA) facilities and configuration management
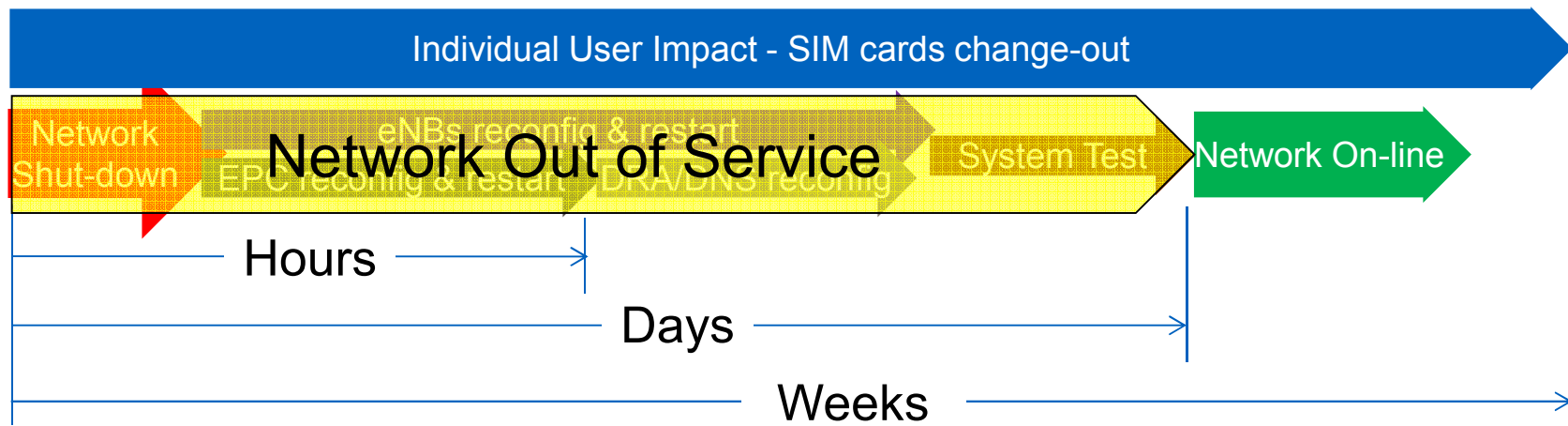- Domain Name Service (DNS) facilities and configuration management

4. Impacts of changing PLMN ID in a live system

Changing PLMN ID after system configuration for "live" service availability will be disruptive and costly

- Every SIM card in every UE would need to be replaced
- Every eNB requires PLMN configuration change
- Every EPC component requires PLMN configuration change
- All Domain Name Service (DNS) and Diameter Routing Agent (DRA) equipment requires domain name change and configuration change

Individual users will be out of service until all SIM cards are changed out

The network will be out of service from the time of first node reconfiguration until the time of system test validation

Individual User Impact - SIM cards change-out

Network Shut-down   eNBs reconfig & restart   Network Out of Service   System Test   Network On-line
EPC reconfig & restart   DRA/DNS reconfig

Hours

Days

Weeks

Summary

1. MSI supports a single PLMN ID with a process enabling public safety entities to obtain permanent independent PLMN IDs if needed

2. Inter-region public safety interoperability and commercial roaming can be achieved

3. Expeditious establishment of an initial administrative authority is critical to support a single PLMN ID

4. Changing PLMN ID in a live system should be avoided